of cells of several varieties—the columnar, the spindle, and intermediate forms; all are ciliated.—On the temperature limits of the vitality of the mammalian heart, by H. Newell Martin and E. C. Applegarth.

No. 6 contains:—On the morphology of the compound eyes of Arthropods, by S. Watase (plates 29 to 35). In studying the structure of the ommatidium of the compound eye of Serolis it was found that it might be reduced to a simple ectodermic invagination of the skin. Extending his researches over several other Arthropods, the author found that the same interpretation could without exception be applied, and he thinks this view of the ommatidium finds its strongest support in the fact that in Limulus the ommatidium is an open pit of the skin. If these views be correct, the unit of the compound eye of an Arthropod is not so complex as has generally been conceived, and the total result is but the vegetative repetition of a similar structure. In an appendix the author alludes to his investigations into the structure of the eye in Echinoderms, the result of which he hopes shortly to publish.—On the anatomy and histology of *Cymbuliopsis calceola*, Verrill (plates 36 to 39), by J. I. Peck. A few specimens of this rare Pteropod were found in the Gulf Stream, off Cape Charles.—On the amphibian blastopore, by T. H. Morgan (plates 40 to 42), concludes that in some forms it becomes altogether or in part the neurenteric canal; in some it becomes the anus; in some, again, it closes and a new anus is formed, while he believes that in Amblyostoma it becomes both the neurenteric canal and the anus.—On a new Actinia, by Dr. Henry V. Wilson (plate 43). This new form was found on the small reef which fringes the shore of No Name Key, Abaco, Bahamas. It was discovered in a perforation on the under surface of a porites-like asteroid coral, and, though constantly looked for, but the one specimen was found. It has been called *Hoplophoria coralligens*. Below the twelve long tentacles are cycles of smaller ones, and below these four remarkable large organs, which give the animal a most *bizarre* appearance; these are diverticula of the gastro-vascular cavity, and are stinging weapons. The genus is placed provisionally with the Antheadæ.

*Bulletins de la Société d'Anthropologie de Paris*, tome xii. (série 3), fasc. 4, 1889.—Continuation of M. Variot's paper on pigmentation of the skin in the region of cicatrized lesions in the negro.—Descriptive ethnographic summary of the course of distribution of different races in Europe, by M. Lombard. Starting from the Neanderthal race as the only one referable to the Quaternary period, the author attempts to show that as early as the age of their descendants—the Cro-Magnon men—various alien races had already appeared contemporaneously with the latter in Central Europe. From this point, M. Lombard undertakes, on very vague premises, to trace the advance westward of successive and intersecting streams of brachycephalic and dolichocephalic peoples bringing with them their own special civilization of the dolmen, polished stone, or other, period. His view that the Pamir plateau is the cradle of the Aryans, and that they belonged primarily to the blonde races, is strongly combated by Mme. Clémence Royer, whose able refutation of his somewhat crude opinions gives to his paper its sole claim to notice.—Communications on the silex of Breonio, near Verona, and on spurious French and Italian flint implements, by M. de Mortillet, who shows the extent to which the manufacture of so-called palæontological objects is carried on.—On a case in which the gray commissure of the third ventricle was absent; and on the concomitant psychic characteristics of this anomalous condition, by Dr. F. de Marcedo.—On the mummified brain of an ancient cranium found in Venezuela, by M. Chudzinski.—On venous circulation in stumps, by Dr. Lejars.—On a rabbit with only one ear, by M. Chervin.—On the effects of the artificial deformity of the skull in a Bolivian infant, by M. Manouvrier.—On various prehistoric stations in the Department of Seine-et-Oise, by M. Vauvillé. The finds at Crespières included three implements of a sandstone not found in the district, the remainder being of cut flint. At Grancières evidence exists of the extensive manufacture of extremely small flint implements similar to those found in India, and in the neighbourhood of Tunis and Algiers, as well as in parts of South-Western Europe. The objects generally would seem to belong to the Palæolithic and Neolithic ages.—On the skeletons found at Castenedolo in Lombardy, and assumed by M. de Marcedo to be of Tertiary origin, by M. de Mortillet.—On the utility of family burying-places in reference to the study of the influence of heredity on anatomical characteristics, by Mme. Clémence Royer.—On the megalithic remains of the Department of La Somme, by M. Pouchon. The author points out the inaccuracy of the official lists published for the district, and describes a number of interesting, so-called polishing stones, and other monoliths, which demand immediate protection from the Government to save them from wanton destruction.—On the distribution of muscular force in the hand and foot, observed by means of a new form of dynamometer, by M. Féré.—Final Report of the Eighth Congress of Orientalists at Stockholm, by M. O. Beauregard.—The prehistoric stations of Coucouteni, Roumania, by M. Dimandi. The finds here are of special interest, as showing the advanced civilization of a people, probably of Greek origin, who as early as the fourth or fifth century B.C. occupied this region. The enormous number of idols, chiefly female, was a marked characteristic of the station. Besides anthropomorphic idols, a few animals, as cows and bulls, were used to represent some forms of divinities.—On the various forms of projectiles of the Neolithic age, by Dr. Capitan.—On bronze objects found in the bed of the Marne, by M. P. Masson.—On the flint knives and arrows of the Department of Aisne, by M. Vauvillé.—On the prehistoric station of Lengyel, in Hungary, by M. Nadaillac.—On a case of a pseudo-male hermaphrodite, by Dr. Pozzi.—On artificially induced deformity of the head as still practised in the Haute Garonne, and other parts of France, by Dr. Delisle (with illustrations).—Report of the Sixth Broca Conference.—On the erroneous establishment of a distinct order of true Bimana, by M. Hervé. The object of the essay is to prove that the Simians have, like man, two hands and two feet, and cannot therefore be classified as true Quadrumana, or true Bimana.

## SOCIETIES AND ACADEMIES.

### London.

**Royal Society**, June 5.—"On the Passive State of Iron and Steel. Part I." By Thomas Andrews, F.R.S., M.Inst.C.E.

The passive state of iron appears first to have been observed just a century ago by Keir, and brought before the notice of the Royal Society in 1790 (Phil. Trans., 1790, p. 379); he observed that strong nitric acid had no action on iron when the metal was placed therein. Since then, Bergmann, Schonlein, Faraday, Herschel, and others, have conducted investigations in relation to this phenomenon. In the present paper are presented the results of a study of certain magnetic, temperature, and other conditions which the author found to affect the passive state of iron and steel. The experiments of Part I. are classified under the following heads:—

Series I., containing the results of observations on the influence of magnetization on the passive state of steel in cold nitric acid, specific gravity 1·42.

Series II., treating of the influence of magnetization on the passive state of steel in warm nitric acid, specific gravity 1·42, he experiments showing that magnetized steel bars were less passive in warm nitric acid than unmagnetized ones.

The chemical composition and physical properties of the steel used are given in detail in the paper, together with the methods employed in the investigation, and detailed illustrations of the various apparatus used in course of the research. The results of the investigation are given in detail in Tables I. and II. The whole of the results on Table I. afford an indication that magnetization of comparatively low intensity, acting during considerable periods of time, exerts only a limited modifying influence on the passivity of iron or steel in the cold, though the influence is discernible when employing a delicate galvanometer. Magnetization, with the nitric acid at a higher temperature, produces a quicker effect (see results in Series II., Table II.). In a recent research by the author "On Electro-chemical Effects on Magnetizing Iron, Part II." (Roy. Soc. Proc., vol. xliv. p. 152), it was noticed that local currents were set up between the polar terminals and central portions of steel magnets exposed as electrolytes; and this class of local action, together with the slight alteration of the physical structure of the magnet bars consequent on their magnetization, may possibly be involved in producing the effects due to magnetism on passive steel or iron in conc. nitric acid.

"Observations on Pure Ice, Part II." By Thomas Andrews, F.R.S., M.Inst.C.E.

The experiments contained in the paper form a continuation of a previous research by the author. The experiments were made to investigate the relative plasticity of pure ice at various temperatures ranging down to − 35° F., and also of pond ice. The arrangements of apparatus used in determining the plasticity of pure ice and pond ice are illustrated in detail in the paper. The ice for the pure ice experiments was frozen from distilled water; the coolest freezing mixture used, consisting of three parts by weight of crystallized calcium chloride and two parts by weight of snow, yielded a constant temperature of − 35° F.; other freezing mixtures were used for the temperatures above this. The cylinders of pure ice employed were 2 feet $1\frac{1}{2}$ inch long, and 2 feet $1\frac{1}{2}$ inch diameter, and weighed 470 pounds. The plasticity was ascertained by measuring the relative penetration, during equal periods of time, of the polished steel rods into the ice, care being taken to avoid errors from conductivity. A large number of experiments were also made on the plasticity of natural lake or pond ice. The influence of the composition of water on the plasticity of the ice frozen therefrom was investigated, and a number of experiments were made to ascertain the proportion of the saline constituents of the lake water taken up into the ice during crystallization. Roughly speaking, it was found that the proportion of inorganic matter in the melted ice was about ten per cent. of the total inorganic salts contained in the lake water from which it was frozen. The general summary of results of the experiments on the plasticity of pure ice at the various temperatures employed are plotted out in four curves on Diagram I., and the results of the experiments on the plasticity of pond ice are shown in detail on Diagram II. In the majority of instances, it was found that, if the plasticity of the ice at − 35° F. be called 1, at 0° F. it would be about twice as much, and at 28° F. the plasticity would be about four times as great as at 0° F., or eight times as much as at − 35° F. The comparatively great contractibility in ice observed at considerably reduced temperatures (see the author's former paper "On Observations on Pure Ice and Snow," Roy. Soc. Proc., No. 245, p. 544) may probably account for the great reduction in its plastic properties at low temperatures. This is in accord with the practical cessation of motion in glaciers during the cold of winter. It was also noticed in course of the research that the plasticity of the naturally frozen pond ice was manifestly greater than that of the prepared pure ice; the comparative difference in the behaviour of the pond ice was doubtless owing to a portion of the saline constituents of the water interspersing during congelation between the faces of the individual crystals of ice, thereby tending to reduce the cohesion of the mass as a whole, and increasing its plasticity.

**Linnean Society**, June 5.—Prof. C. Stewart, President, in the chair.—The President nominated as Vice-Presidents for the year Messrs. W. Carruthers, P. Martin Duncan, J. G. Baker, and F. Crisp.—Mr. H. Little exhibited and made some remarks upon a photograph of a remarkable Aroid, *Amorphophallus titanum*, which had flowered for the first time in this country.—Mr. James Groves exhibited a specimen of an *Orobanche* parasitic upon a *Pelargonium*.—The following papers were then read and discussed:—On a collection of plants made in Madagascar, by Mr. G. F. Scott Elliot.—On Weismann's theory of heredity applied to plants, by Rev. G. Henslow.—Teratological evidence as to heredity of acquired conditions, by Prof. Windle.—On the development of the tetrosporangia in *Rhabdochorton Rothii*, Naegeli, by Mr. Harvey Gibson.—On the position of *Chantransia*, with a description of a new species, by Mr. George Murray and Miss E. Bass.—On the development of the cystocarp in *Callophyllis laciniata*, by Miss A. L. Smith.—On the cystocarps of some genera of Florideæ, by Mr. J. B. Carruthers.

**Royal Meteorological Society**, June 18.—Mr. Baldwin Latham, President, in the chair.—The following papers were read:—On the difference produced in the mean temperature derived from daily maximum and minimum readings, as depending on the time at which the thermometers are read, by Mr. W. Ellis. In the publications issued by the Greenwich Observatory authorities, the maximum and minimum temperatures are those referring to the civil day from midnight to midnight. At many stations the observers only read their instruments once a day, viz. at 9 a.m., when the reading of the maximum thermometer is entered to the preceding civil day, and the reading of the minimum thermometer to the same civil day. Such stations are called "climatological stations." The author has tabulated the Greenwich maximum and minimum temperatures according to both methods for the years 1886–89, and finds that the climatological maximum and minimum means are in excess of the civil day means.—On the distribution of barometric pressure at the average level of the hill stations in India, and its probable effect on the rainfall of the cold weather, by Mr. W. L. Dallas. The weather over India during January 1890 was very dry, and in marked contrast to that which prevailed during January 1889. The distribution of barometric pressure was, however, much the same in both months. The author has investigated the records at the hill stations, and has prepared charts showing the distribution of barometric pressure from both high and low level stations. From the high level charts it appears that the mean barometric gradient in 1889 was rather more than twice that in 1890, and, considering what is known of air movements, even at moderate elevations above the earth's surface, it may be assumed that these differences in pressure were accompanied with large differences of air motion; and if it is also assumed that the evaporation over the Southern Ocean is in all years fairly comparable in amount, the deficiency of rainfall over India in the winter of 1889–90 can be attributed to diminished lateral translation of vapour owing to sluggish movements in the upper atmosphere.—On the relative prevalence of different winds at the Royal Observatory, Greenwich, 1841–89, by Mr. W. Ellis. The author gives the following as the average number of days of prevalence of different winds for the 49 years 1841–89, as derived from the records of the self-registering Osler anemometer:—

| N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. | Calm. |
|---|---|---|---|---|---|---|---|---|
| 40 | 45 | 27 | 22 | 35 | 106 | 46 | 22 | 22 |

—On some recent variations of wind at Greenwich, by Mr. A. B. MacDowall.—On the action of lightning during the thunderstorms of June 6 and 7, 1889, at Cranleigh, by Captain J. P. Maclear, R.N. The author examined a number of trees which had been struck by lightning during these thunderstorms, and found that those which were struck before the rain fell were shattered, while those which were struck after the rain commenced were simply scored, with the bark blown off. It seems that during rain every tree is conducting electricity, and a disruptive discharge takes place where the conductor becomes insufficient. This depends on the position of the cloud, the amount of foliage on the tree, its condition of moisture, and its connection with running water.

**Geological Society**, June 4.—Dr. A. Geikie, F.R.S., President, in the chair.—The President referred to the sad loss which the Society had sustained through the death of Mr. Dallas, and read the following resolution, which had been passed by the Council and ordered to be entered upon its minutes:—"The Council desires to record on its minutes an expression of its deep regret at the death of the Assistant-Secretary, Mr. Dallas, which took place on the 29th ultimo, and of its sense of the loss inflicted on the Council and Society by the removal of one who, for the long period of twenty-two years, had done them invaluable service, and who, by his courtesy, kindliness, and helpfulness had endeared himself as a personal friend to the Fellows." It was moved by Dr. Evans, seconded by Dr. Hinde, and carried unanimously, that the resolution passed by the Council be communicated to Mrs. Dallas on behalf of the Society also.—The following communications were read:—As to certain "changes of level" along the shores on the western side of Italy, by R. Mackley Browne.—North Italian Bryozoa, by A. W. Waters.—Notes on the discovery, mode of occurrence, and distribution of the nickel-iron alloy "Awaruite," and the rocks of the district on the West Coast of the South Island of New Zealand in which it is found, by Prof. G. H. F. Ulrich. In an introduction, the author describes the original discovery, determination, and naming of the mineral in 1885 by Mr. W. Skey, and clears up a misunderstanding by which he himself had been credited with the discovery; he furthermore gives a historical sketch of the further investigations and publications referring to the mineral. The geology of the Awaruite-bearing district is described. The rocks consist of peridotites and serpentines, breaking through metamorphic schists with occasional massive intrusions of acid rock. The petrographical characters of the peridotites of the hill-complex, including the Olivine and Red Hill Ranges, and serpentines are considered in detail, and the mode of occurrence of the Awaruite in them and in the sands derived from their denudation is discussed. The author submits a sketch-map of the localities where the mineral has been discovered in sand, including not only George River, but also Silver Creek, Red Hill, and other localities, and quotes Mr. Paulin's belief that it occurs diffused through the whole extent of peridotite and serpentine rocks, and inferentially in the drifts derived therefrom. The President noted the interest attaching to the gradual development of our knowledge of native iron of terrestrial origin. Prof. Judd was glad to have the present opportunity of removing a misconception that had arisen concerning this mineral. In bringing the matter before the Society on a previous occasion he dwelt upon the facts of special geological interest, and Mr. Skey's name was not mentioned in the few lines placed on record in the Proceedings. No attempt, however, had been made by Prof. Ulrich to claim the discovery of this mineral, though he appeared to have been the first to record its peculiar occurrence in the ultrabasic rocks. In the South Island was the well-known chromite-bearing olivine rocks of the Dun Mountain, but the rock now described was in a distant part of the same island. An interesting series of serpentines derived from peridotites has been sent over by the author, and these specimens contain the "Awaruite." A number of garnets and chlorites, with chrysotile, talc, and magnetite, have been found in the Red Hills. He was not aware that any "Awaruite" had been discovered in the peridotite; but this was probably due to the softer nature of the serpentine, where it could be more easily detected. He had recently heard that one of the serpentines of Norway had yielded a similar alloy.

### EDINBURGH.

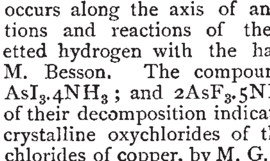
**Royal Society**, June 2.—Sir Douglas Maclagan, Vice-President, in the chair.—Prof. Crum Brown read a paper on the relation of optical activity to the character of the radicals united to the asymmetric carbon atom. He stated that—if we denote the optically active compound by the symbol $C(AB\Gamma\Delta)$—where C denotes the carbon atom, and $A$, $B$, $\Gamma$, $\Delta$ denote the radicals arranged in order of a hitherto undetermined quantity, K—any replacement of one of the radicals by a new one which changes the order as regards K alters the sense of the optical activity. Suppose, for instance, that as seen from $A$ the values of K for $B$, $\Gamma$, $\Delta$ are in ascending order. If we substitute for $\Gamma$ an atom whose K is greater than that of $\Delta$, the order will now be $B$, $\Delta$, $\Gamma'$, which is left-handed if that of $B$, $\Gamma$, $\Delta$ was right-handed. Thus (assuming that increase of *mass* is accompanied by increase of K), he finds that in a number of such compounds the alteration indicated produces a substance in which the direction of rotation of the plane of polarization of light is reversed.—Dr. H. R. Mill read a paper on the mean level of the surface of the solid earth, in which he showed that, from Dr. John Murray's calculations, the general level of the lithosphere was at a depth of 1400 fathoms beneath mean sea-level. More recent explorations show that the oceanic depths are deeper and more extensive than was formerly supposed, so that the mean sphere-level—the surface of a shell which cuts the slope between the elevated and depressed region of the earth's surface in such a manner as to leave a volume of elevated material above it exactly equal to the volume of the depressed region beneath it—appears to lie close to a depth of 1700 fathoms. The contour line of 1700 fathoms of ocean depth divides the earth's surface into two equal areas—one of depression, the other of elevation. This remarkable coincidence shows that the portions of the elevated half of the lithosphere projecting above mean sphere-level would just suffice to fill the hollow beneath mean sphere-level of the depressed half. Dr. Mill also pointed out that round the edge of the great three-armed northern elevated mass the slope to the depressed area was so steep that the outlines of the 1000 and 2000 fathom contours follow the coast-line very closely; but the Antarctic elevation rises from the bed of the depression with an extremely gentle slope.—Mr. J. Crockett communicated an account of Weierstrass's contributions to the calculus of variations.—Mr. John Anderson gave accounts of the recent Louisville tornado, and showed a barometric record made in its neighbourhood. The barometer fell suddenly to the extent of about one-tenth of an inch, and again instantly rose as the tornado passed.

### PARIS.

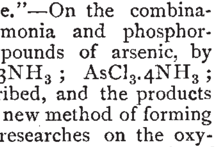
**Academy of Sciences**, June 16.—M. Hermite in the chair.—On the ordnance survey of France, by M. Maurice Lévy. In commenting upon the work undertaken by the Geodetical Commission, M. Lévy notes that two kinds of documents will be published—one to contain an account of the methods of calculation and corrections which have been employed, as well as the description of the instruments used; the other to be a graphical *répertoire* of the levels determined—and in presenting an account of the first series of operations, some explanation of the work is given.—Theory of the permanent movement produced near the widened opening of a fine tube; application to the second series of Poiseuille's experiments, by M. J. Boussinesq.—Calculation of the successive temperatures in an indefinite homogeneous and athermanous medium which is in contact with a source of heat, by the same author.—On the various isomeric inosites and their heat of transformation, by M. Berthelot. The author finds that in dextrorotatory inosite, dehydrated and having the formula $C_6H_{12}O_6$, dissolved in 300 c.c. of water at 17°·9, the heat absorbed by 1 molecule is − 2·05 calories. Lævorotatory inosite similarly treated gives − 2·03 calories. On mixing the two liquids no rise or fall of temperature was observed. It is therefore concluded that two symmetrical inosites do not show any signs of combination when in solution. Four grammes of neutral inosite were dissolved in 300 c.c. of water at 18°. The rate of solution was slower than that of the active inosites, and the heat developed was − 3·87 calories. This heat of solution is negative and greater than that of either of the active inosites. The three corresponding tartaric acids give the same results.—Variation of the elasticity of glass and of crystal with temperature, by M. E. H. Amagat. It appears from the experiments that the variation increases with the temperature; it is a little greater for glass between 100° and 200° than between 100° and 0°, and considerably greater in the case of crystal; and it seems probable that the variation would increase more and more in value with still higher temperatures.—On a new property of luminous waves, by M. Gouy.—Characteristic equation of hydrogen, by M. Ch. Antoine.—On the variation of temperature with altitude in cyclones and anticyclones, by M. Marc Dechevrens. From a series of observations the law is formulated that "at sea-level and in air, at an altitude less than 1000 or 1200 metres, the temperature in a vortex varies inversely as the pressure, whilst in air at greater altitudes it varies directly as the pressure. In the latter case the temperature has a minimum along the axis of the cyclone and a maximum on the perimeter of the depression; a maximum also occurs along the axis of an anticyclone."—On the combinations and reactions of the gases ammonia and phosphoretted hydrogen with the halogen compounds of arsenic, by M. Besson. The compounds $AsBr_3.3NH_3$; $AsCl_3.4NH_3$; $AsI_3.4NH_3$; and $2AsF_3.5NH_3$ are described, and the products of their decomposition indicated.—On a new method of forming crystalline oxychlorides of the metals; researches on the oxychlorides of copper, by M. G. Rousseau. Among other bodies of the same type, the author has succeeded in obtaining crystallized *atacamite* by his method.—On the combination of phosphorus pentafluoride with nitrogen tetroxide, by M. Emile Tassel. The body formed, $N_2O_4.PF_5$ reacts with water in accordance with the equation—

$$3(N_2O_4, PF_5) + 14H_2O = 2NO + 4HNO_3 + 3H_3PO_4 + 15HF,$$

thus differing essentially from the corresponding compound containing chlorine.—Heat of formation of uric acid and the alkaline urates, by M. C. Matignon.—Chloralimide and its isomeride; a reversible isomeric transformation, by MM. Béhal and Choay. A mixture of chloralimide (B.P. 169°) and isochloralimide (B.P. 103°–104°) is obtained by the action of heat upon chloralammonia; the method of separation and purification of each of these bodies is described. Both bodies possess the same molecular weight, Raoult's method with benzine for solvent yielding the figures—for chloralimide 430, for isochloralimide 434–435. Each body may be transformed by suitable means, given in detail, into its isomeride. The following formulæ are proposed by the authors as representations of these bodies:—



Chloralimide.



Isochloralimide.

—On an adulteration of linseed oil, by M. A. Aignan.—On the ear gland (*Paludina vivipara*) and the nephridian gland (*Murex brandaris*), by M. L. Cuénot.—Researches on multiple buds, by Mr. William Russell. The conclusion is drawn that "multiple buds, one springing from another and being vascularly connected therewith, ought to be considered as normal ramifications."—On the influence exercised by the time of cutting upon the production and development of shoots from the stocks in underwood, by M. E. Bartet.—Influence of the peritoneal transfusion of the blood of the dog upon the evolution of tuberculosis in the rabbit, by MM. J. Héricourt and Ch. Richet.—On the antiseptic and antipeptic doses of various substances, by M. Andrea Ferranini.

### BERLIN.

**Physiological Society**, June 6.—Prof. du Bois-Reymond, President, in the chair.—Dr. Hagemann gave an account of his experiments on proteid metabolism during pregnancy and lactation; they were conducted upon two dogs supplied with a constant nitrogenous diet. During the first half of the period of pregnancy more nitrogen was excreted than was taken with the food, so that the nitrogen requisite for the growth of the fœtus must have been derived from the tissue-proteids of the mother. After this period the nitrogenous excretion sank to a condition of equilibrium in the middle of pregnancy, and then fell further until the birth of the offspring. Immediately after parturition there was a very marked increase in the excretion of nitrogen, followed by a sudden fall which led to the output being, during four weeks' lactation, less than the in-take.—Prof. Zuntz made a further communication respecting the intestinal fistulæ which he described at the previous meeting of the Society. As regards the absorption of fats and fatty acids, he found that even the finest and most uniform emulsions were not absorbed either alone or with the addition of bile. When saponified, a marked absorption of the soaps took place, but to a much less extent than in normal animals; neither was it increased by the addition of glycerine. The results obtained were, on the whole, negative. The speaker put forward the view that the absorption of fat in the intestine is dependent upon some at present unknown function of the pancreas.

### AMSTERDAM.

**Royal Academy of Sciences**, May 31.—Mr. Max Weber pointed out the characters of a true adult hermaphroditic finch (*Fringilla cœlebs*), caught in the neighbourhood of Amsterdam. The right side of the bird has the plumage of the adult male, the left that of the adult female. The striking difference in the colouring of the plumage on the two sides corresponds to an internal co-existence of ovary and testis: the latter is, on the male-coloured (right), the former on the female-coloured (left) side. Both sexual glands, compared, also microscopically, with the testis and ovary of normal finches, are anatomically wholly normal, and able to produce male and female sexual elements. The case seems to be an illustration of the dependence of sexual colouring upon the nature of the sexual gland.—Mr. van Bemmelen stated that Mr. Molengraaff had sent him a white substance found in the high moor of Drenthe (Netherlands), denominated by the moor-diggers as *White Klien*. It consists of 87 per cent. carbonate of oxydulated iron, 6 per cent. carbonate of lime, and 8 per cent. vegetable matter.—Prof. Hubrecht gave a description of the early developmental stages in the shrew. In the two-layered blastocyst the mesoblast makes its appearance: (*a*) from the hypoblast under the anterior portion of the epiblastic shield; (*b*) from the primitive streak and its anterior prolongation; (*c*) from an annular zone of hypoblast below, but just outside the border of the epiblastic shield. The mesoblast from these three sources very soon fuses into one continuous plate. There appears to be considerable agreement between the facts as presented by the shrew and those which Bonnet has described for the sheep. The gastrulation process in the Mammalia was then comparatively considered, and a theoretical interpretation put forward, differing considerably from E. van Beneden's latest hypothesis.

### STOCKHOLM.

**Royal Academy of Sciences**, June 11.—Spiders from the Nicobar Islands and other parts of Southern Asia, mostly collected during the voyage of the Danish war-ship *Galatea* in the years 1845-47, described by Prof. T. Thorell.—On the remains of a fish preserved since the year 1289 in the cathedral of Wisby, and often mentioned in the old chronicles as a remarkable curiosity, by Prof. F. A. Smitt.—Étude des conditions météorologiques à l'aide de cartes synoptiques réprésentant la densité de l'air, par Dr. N. Ekholm.—On an expedition which has just started for Spitzbergen, by Baron A. E. Nordenskiöld. This expedition consists of some young Swedish naturalists who propose to make geological and zoological researches.—On the fungi of Omberg and its neighbourhood in Ostrogothia, by Herr L. Romell.—On the different kinds of vegetation on the surface of the peat bogs of Southern Sweden, by Herr G. Andersson.—Dendrological studies made in several Swedish provinces, by Herr F. Laurell.—On the vegetation of Norrbotten, by Dr. A. Lundström.—Botanical rambles in the south-west of Jemtland in the summer of 1889, and description of some Hieracia and Carices found, by Dr. M. Elfstrand.—On the oxidation of the phenyl-methyl-triazol-carbon acid, i., by Dr. J. A. Bladin.—On some ammoniacal platina combinations, by Dr. O. Carlgren.—Critical remarks on the history of the vegetation of Greenland, by Prof. A. G. Nathorst.—Studies on the Turbellaria and Nemertinæ of the northern countries, by Dr. D. Bergendal.

## BOOKS, PAMPHLETS, and SERIALS RECEIVED.

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